REMARKS

This is in response to the Notice of Non-Compliant mailed February 24, 2006 and the Office Action mailed on November 10, 2005, and the references cited therewith.

Claims 1-34 are pending in this application.

The Examiner stated in the Notice of Non-Compliant Amendment mail on February 24, 2006, that claims 35-38 were missing. Claims 35-38 were added in the Amendment and Response filed on May 5, 2003 in response to the final Office Action dated March 3, 2003.

The Amendment and Response filed on May 5, 2003 was not entered according to the Advisory Action mailed on May 29, 2003. Therefore, Applicant does not believe the Notice of Non-Compliant mailed on February 24, 2006 is accurate. Claims 35-38 were never entered and therefore do not exist in the present application. Claims 1-34 are now pending in this application.

Allowable Subject Matter

The indicated allowability of claims 12-34 is withdrawn in view of the newly discovered reference(s) to Monroe, Agnello, Zampini et al. and Prus.

§102 Rejection of the Claims

Claims 1, 5 and 8 were rejected under 35 USC § 102(b) as being anticipated by Slater (U.S. Patent 4,941,187). This rejection is respectfully traversed.

As described in the summary section of the last appeal brief, audio feedback regarding the operation of an aircraft 100 is provided by microphones 245, 250 that are placed next to sound sources. (Summary, page 2, pages 3 and 4) The sound sources are components 120, 115, 215, 220, 225, 240, and 235 of the aircraft 100, such as an airframe 235, an engine 120, a flap 115, a brake 215, a gear 220, and a pump 225. For example, providing sound from the pump helps a pilot understand whether the pump is operating, and whether it is operating correctly. The pilot would otherwise be unable to hear the pump well if at all. It might also be reassuring to clearly hear landing gear lock. In one embodiment, a microphone is placed near headsets 275,

and used to provide noise cancellation such that sounds from the other microphones can be more easily heard. (Page 8, lines 4-14).

Slater "relates to intercom apparatus particularly adapted for use in light aircraft. More specifically, the present invention relates to a voice activated intercom enabling hands-free intra-cabin communications between pilot, co-pilot, and passengers..." Col. 1, lines 14-18. There is no teaching of placing microphones "adjacent to at least one aircraft component, wherein the at least one aircraft component is a sound source;" with an audio output that "indicates operation of the at least one aircraft component." As claimed in claim 1. A pilot, co-pilot or passenger may not be fairly characterized as aircraft components. Since at least one element is missing from Slater, a prima facie case of anticipation has not been established, and the rejection should be overturned.

Claims 1, 5 and 8 were rejected under 35 SC § 102(b) as being anticipated by Bunds, Jr., (U.S. Patent 3,748,372). This rejection is respectfully traversed.

Bunds, Jr., describes the use of microphones to detect noise created by turbulence. That noise is correlated with a stall condition to provide an alarm. Claim 1 specifically recites that the aircraft component is a sound source, and that the audio output indicates operation of the aircraft component. In Bunds, Jr., turbulence is the sound source, and the sound does not indicate operation of the aircraft component, only turbulence, which is representative of a stall condition. Since at least one element is missing from Bunds, Jr., a prima facie case of anticipation has not been established, and the rejection should be overturned.

§103 Rejection of the Claims

Claims 1 and 4 were rejected under 35 USC § 103(a) as being unpatentable over Monroe, (U.S. Patent 5,798,458 (Monroe '458) in view of Monroe (U.S. Patent 6,545,601) (Monroe '601).

Monroe '458 describes a plurality of acoustic sensors placed about an airframe to record an acoustic event in the event of a catastrophic event. The sensors do not appear to be placed adjacent aircraft components, where the component is a sound source as claimed. Rather, the sensors pick up acoustic vibrations from bombs, gunfire, or other events or failures. Thus, the

sensors also fail to indicate operation of the component as claimed. Monroe '601 describes a security and surveillance system for aircraft that uses video and audio sensors. The sensors monitor components of an aircraft for security purposes, not for indicating operation of a component as claimed. Thus, neither reference, alone or combined describes the use of microphones adjacent to aircraft components that are sound sources, and indicating the operation of the components via the audio output as claimed.

The Office Action indicates that Monroe '601 discloses that "the audio signal is output through the speaker 240 (see column 22, lines 18-20)" This language refers to audio that is captured as described in column 21, lines 55-59: "In addition, various audio signals may be incorporated utilizing a variety of audio sensor devices, such as a cockpit voice sensor 113, on board radios, 224, 226 and the aircraft public address system 228. All of these produce an audio signal." As can be seen, this does not describe the placement of an audio sensor adjacent to at least one aircraft component that is a sound source, wherein the audio output indicates operation of the aircraft component as claimed.

Since neither reference describes the placement of audio sensors adjacent to aircraft components that are sources of sound, and the audio output indicates operation of the of the component, a prima facie case of obviousness has not been properly established, and the rejection should be withdrawn.

The Office Action also indicates that it would be obvious to combine the references to obtain the benefit of being able to correct aircraft component problems as they occur. Neither reference is directed toward this problem. The combination of references appears to be based on solving a problem that neither reference nor the art is cited as describing. Hence, the combination must have been made with hindsight, using the present application as a roadmap. This is an improper combination.

Claims 5 and 11 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 as applied to claim 1 above, and further in view of Bellman, Jr. This rejection is respectfully traversed at least because the claims depend from claim 1 which is believed allowable as described above. These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claims 2, 3 and 6 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 as applied to claim 1 above, and further in view of Agnello, U.S. Patent 5,228,093. This rejection is respectfully traversed at least because the claims depend from claim 1 which is believed allowable as described above. These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claims 12-15, 17, 19-21, 24-27, 29, 31 and 32 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 and Monroe '601 and further in view of Agnello. This rejection is respectfully traversed.

Agnello describes carving energy out of the energy levels of on of two spectral data signals to reduce competition for dominance of energy levels in predetermined spectral bands, which may result in less psychoacoustic masking. Independent claims 12 and 24 as amended, use a physcho-acoustic model to ensure sound from one sound source is not masked out. The physcho-acoustic model is described starting at page 6, line 19, and specifies a way to separate sounds from each other and contains a list of what sound components are likely to be masked by others. It may account for the ear's physical capability to distinguish frequency and amplitude and localize a sound in space, as well as psychological aspects of sound perception. Agnello takes two data signals and simply "carves energy out of the energy levels of one of those spectral data signals in the spectral bands where the other spectral data signal has energy levels..." Abstract. While it indicates that it reduces physchoacoustic masking, it does not do so using a physcho-acoustic model as claimed.

At least one element of claims 12 and 24, as well as the claims depending therefrom is lacking from the references, either alone or combined. Since at least one element is lacking, a proper prima facie case of obviousness has not been established, and the rejection should be withdrawn.

Claims 16 and 28 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 and further in view of Agnello as applied to claims 14 and 26 above, and further in view of Bellman, Jr. This rejection is respectfully traversed at least because the claims depend from claim 12 or 24 which are believed allowable as described above. These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claim 7 was rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 as applied to claim 1 above, and further in view of Zampini et al., U.S. Patent 5,319,359. This rejection is respectfully traversed at least because the claim depends from claim 1 which is believed allowable as described above. This claim is believed allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claims 18 and 30 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 and further in view of Agnello as applied to claims 12 and 25 above, and further in view of Zampini et al. This rejection is respectfully traversed at least because the claims depend from claim 12 or 24 which are believed allowable as described above. These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claims 9 and 10 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 as applied to claim 1 above, and further in view of Prus, U.S. Patent 6,275,590. This rejection is respectfully traversed at least because the claims depend from claim 1 which is believed allowable as described above. These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Claims 22, 23, 33 and 34 were rejected under 35 USC § 103(a) as being unpatentable over Monroe '458 in view of Monroe '601 and further in view of Agnello as applied to claims 12 and 24 above, and further in view of Prus. This rejection is respectfully traversed at least because the claims depend from claim 12 or 24 which are believed allowable as described above.

These claims are allowable for at least the same reasons. Applicant reserves the right to set forth further arguments at a later date.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23rd day of March, 2006.

Dawn M. Poole _____

Name Signature